

**SIGNAL PROCESSING SYSTEM WITH BASEBAND NOISE MODULATION
AND NOISE FILTERING**

John L. Melanson, Stephen T. Hodapp, and Giri N. K. Rangan

ABSTRACT OF THE DISCLOSURE

(63) A digital-to-analog converter (“DAC”) system utilizes notch filters and chopping modulation technology to remove $1/f$ and other baseband noise from a baseband of a signal of interest. Chopping modulation and demodulation circuitry of the DAC operate at a chopping frequency and all harmonics equal to approximately one-half of a digital input signal sampling frequency. A notch filter attenuates signals having frequencies around the chopping frequency prior to chopping to reduce fold back of noise into the baseband due to parasitic modulation. Another notch filter attenuating signals having frequencies around twice the chopping frequency further reduces fold back of noise into the baseband.